
THE CHANGING AMERICAN DIET: TRENDS AND ISSUES

S u m m a r y

The American diet has undergone vast changes in terms of what, where, and why Americans eat and how much they choose to spend. Powerful and complex forces drive consumption patterns. Food choices are not simple and reflect the balancing of one factor against another. These include income, prices, tastes, quality, convenience, nutrition, and safety. When changing factors work together, the results are obvious. However, this is seldom the case with food.

When compared with federal dietary recommendations depicted in the

USDA Food Guide Pyramid, the healthfulness of the American diet has shown modest improvements since 1970. Americans, on average, increased their consumption of fruits, vegetables, grains, meat and dairy products between 1970 and 1995. At the same time, consumption of added sugars and fats, nutrients that tend to be over consumed, has increased.

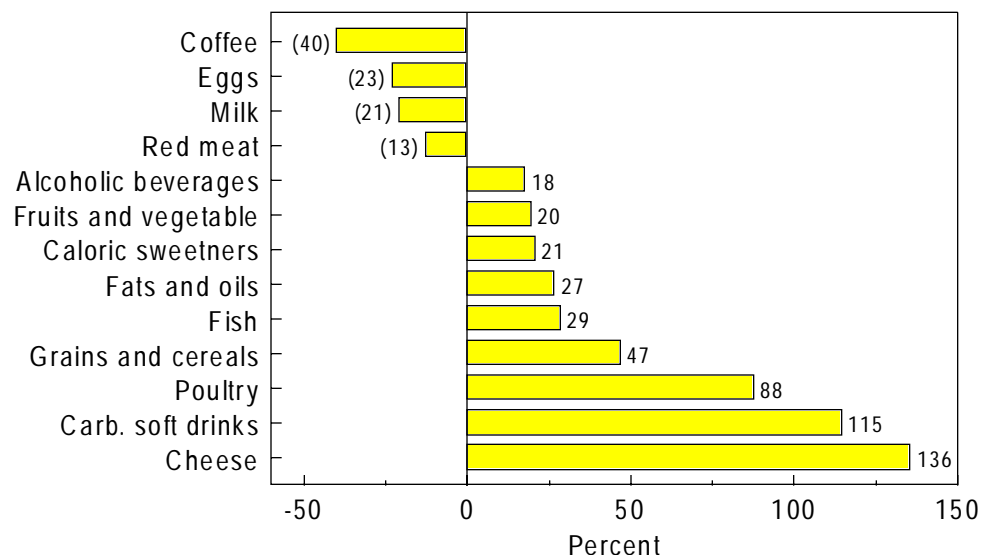
Despite some improvements, most consumers continue to fall short of Food Guide Pyramid serving recommendations for fruits, vegetables, and

dairy products while consuming excess servings of the added fats and oils and added sugars depicted at the top of the Food Guide Pyramid.

Movement toward the dietary guidelines implies fundamental changes in what is produced and how it is produced, processed and marketed. These changes will have impacts on the environment, on water quality, on fertilizer usage, on farm equipment manufactures, retailers, wholesalers, and everyone in between. Agricultural research will be a key conduit for channeling and understanding these changes. As Americans improve their

Changes in Per Capita Consumption, 1970-94

The American diet undergoes marked changes



diets and, hence their health, a vast potential exists for containing health care costs, improving longevity, and enhancing productivity.

A challenge for the coming century is to integrate agricultural, food, nutrition, economic, and medical research to enhance product development productivity, improve communication so

that all people can share in the benefits of better diets, maintain a safe affordable food supply, and understand developing trends and use them to our advantage.

Trends in Per Capita Food Consumption

- The American diet has changed considerably over the last quarter century. Changes have been driven by various factors, including prices, consumer income, convenience, new products, growth in the away-from-home food market, expanded advertising programs, smaller households, more two-earner households, more single-parent households, increased ethnic diversity, and a burgeoning interest in nutrition.

- Consistent with dietary and health recommendations, Americans now consume nearly one and a half times more grain products and a fifth more fruits and vegetables on a per capita basis than they did in 1970. Contrary to recommendations, however, Americans are consuming record-high amounts of caloric sweeteners, carbonated soft drinks, frozen dairy desserts, and candy.

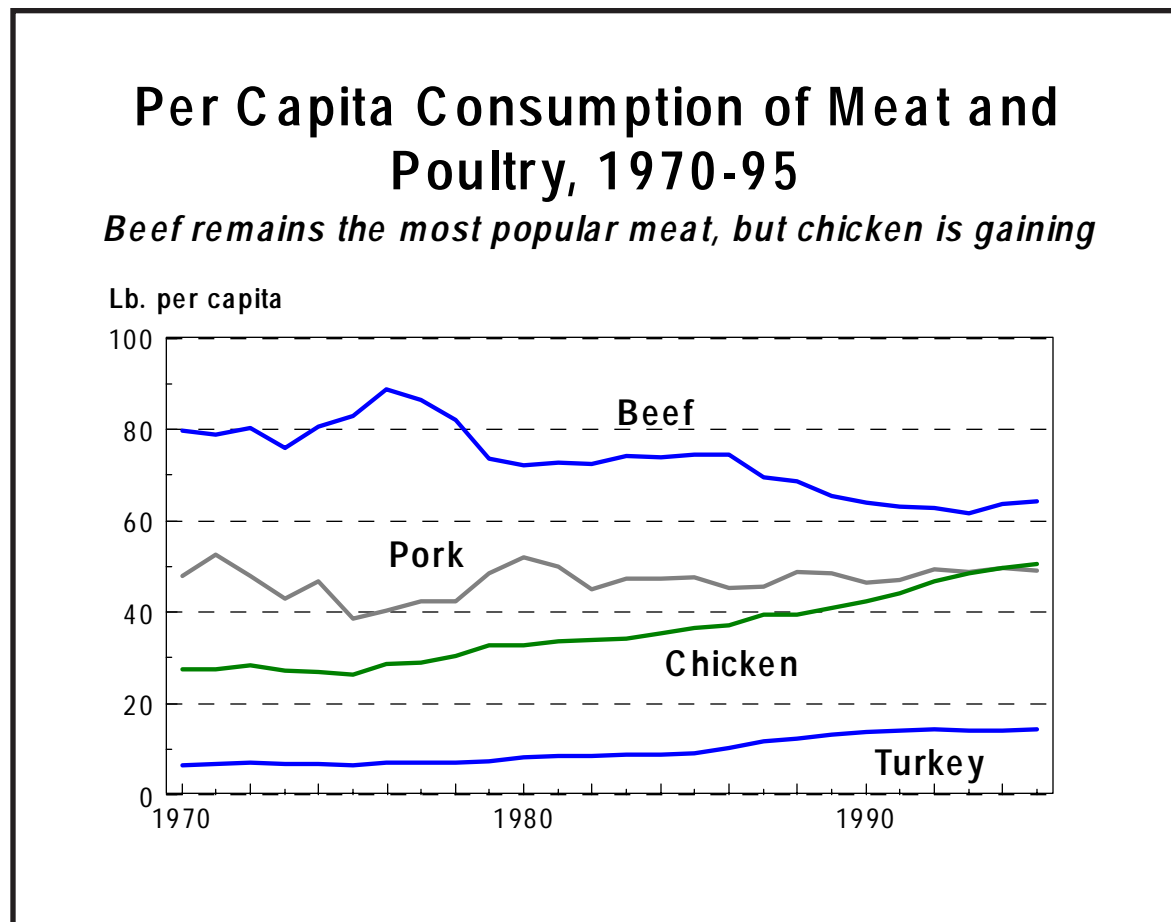
More Than Ever A Nation Of Meat Eaters

- In 1995, total meat consumption (red meat, poultry, and fish) reached a record 195 pounds (boneless equivalent) per person, 16

pounds above the 1980-84 annual average. "Value-priced" burgers and buckets of fried chicken draw customers to food service outlets. Rotisserie chicken and "buffalo wings" have become so popular that they have made inroads across the country, even in pizzerias.

- Per capita consumption of beef reached an all-time high of 89 pounds (boneless, trimmed equivalent) in 1976, when beef supplies were at record levels because of a liquidation of the nation's beef herd due to declining cattle prices and farm income. Consumption dropped significantly in the late 1970s, remained flat in the early 1980s, and then, from a 1980s high of 75 pounds per capita in 1985, declined steadily to 61.5 pounds in 1993. In 1994, increasing supplies of beef and declining beef prices spurred a 2-pound increase in per capita consumption of beef, the first increase in 9 years. Consumption inched up again in 1995.

- In contrast, per capita consumption of chicken, which remained flat in the early 1970s, steadily increased from 28.5 pounds (boneless equivalent) in 1976 to 50.4 pounds in



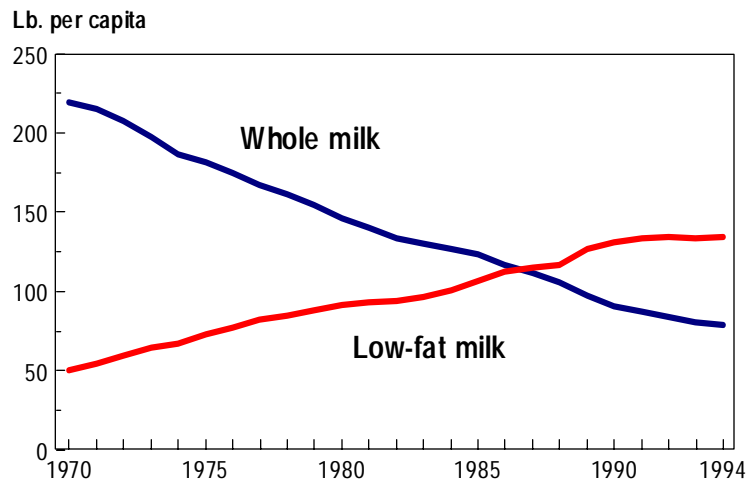
1995. Similarly, per capita consumption of turkey more than doubled from 7.0 pounds in 1976 to 14.4 pounds in 1995. Poultry has benefited from a lower real price than beef and from health-related concerns about beef. In addition, the poultry industry has provided scores of new brand-name,

value-added processed products for consumers' convenience, as well as a host of products for the away-from-home market.

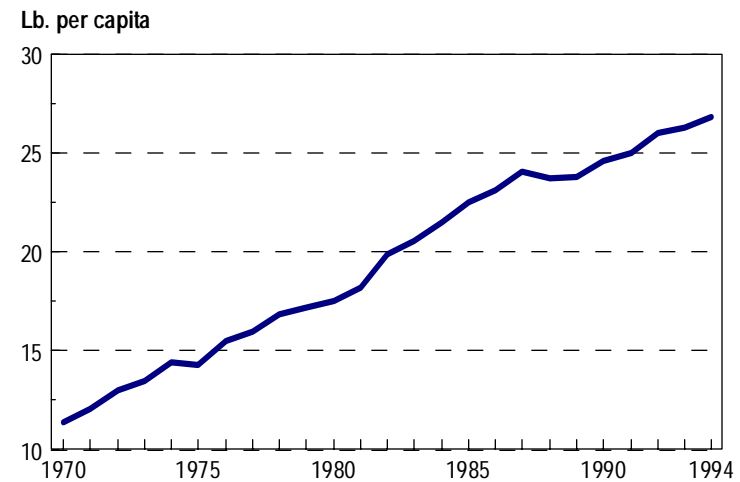
Shift to Low-Fat Milk

Per capita consumption of whole milk declined 64 percent from 1970 to 1994, while consumption of lower-fat milk increased 168 percent. This suggests that consumers will switch to more nutritious products when prices, convenience, taste, and availability do not present overriding barriers. However, when nutrition is not the only critical factor, as in the case of cheese -- a key ingredient in pizza, one of Americans' favorite fast foods -- consumption can move in another direction.

Americans Are Switching to Lower Fat Milks...



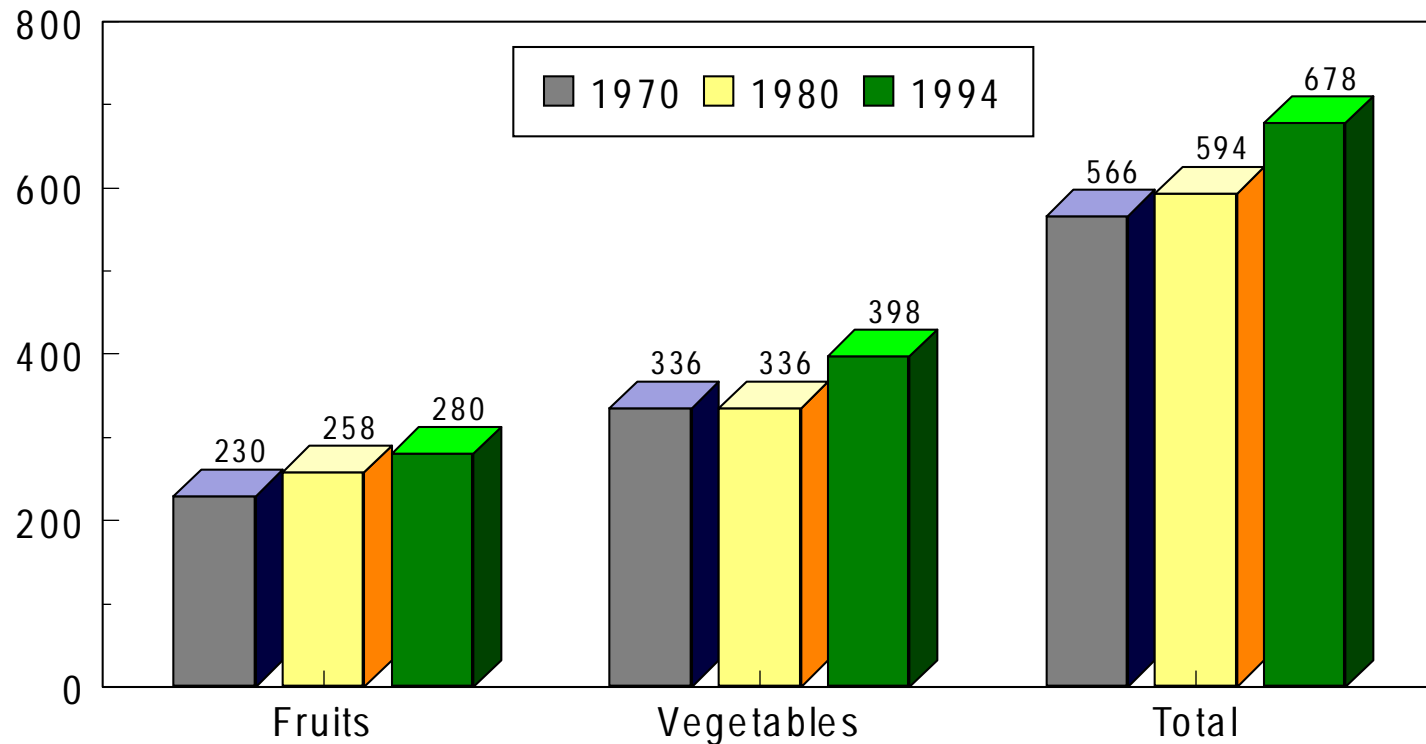
...But Cheese Consumption Continues To Rise



Per Capita Consumption of Fruits and Vegetables

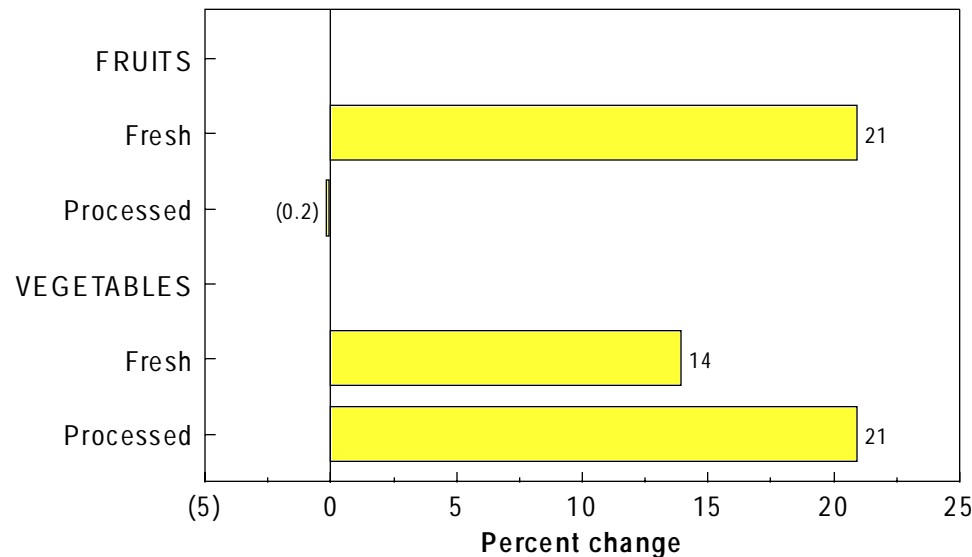
Consumption increased 20 percent from 1970 to 1994

Lb. per capita



Changes in Fruit and Vegetable Consumption, 1980-94

Processed fruits hold steady while others increase



Increase In Fruit and Vegetable Consumption

- Annual fruit consumption increased 50 pounds per capita over the same period, and vegetable consumption increased 62 pounds per capita. However, consumption of fruits and vegetables still remains below the levels recommended by the USDA Food Guide Pyramid.

- Better quality, increased variety and year-round availability have boosted consumption of fresh fruits, while price, convenience, and increasing preference for fast-food eateries and ethnic foods have hiked consumption of frozen vegetables (especially french fries) and canned tomato products. Price increases for both fresh fruits and vegetables were almost double that for processed varieties. However, despite the bigger price increases for fresh than processed, per capita consumption increased nearly 21 percent for fresh fruit, 14 percent for fresh vegetables, and declined 0.2 percent for processed fruit.

Suggested reading...

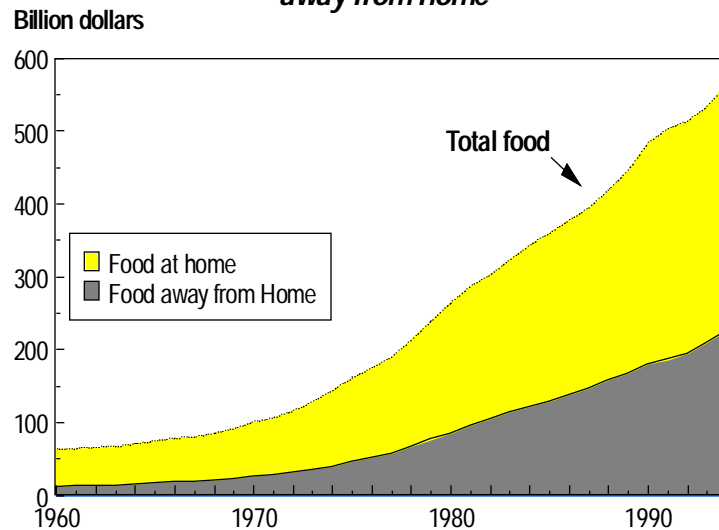
Frazao, Elizabeth. *The American Diet: Health and Economic Consequences*, Agricultural Information Bulletin 711, USDA, Economic Research Service, February 1995.

Income Growth Drives Consumption of HVPs

Consumer purchasing power has increased at about 2 percent per year. This has allowed consumers to increase their demand for quality, convenience, away-from-home dining, more expensive foods, nutritionally improved foods, and safer foods.

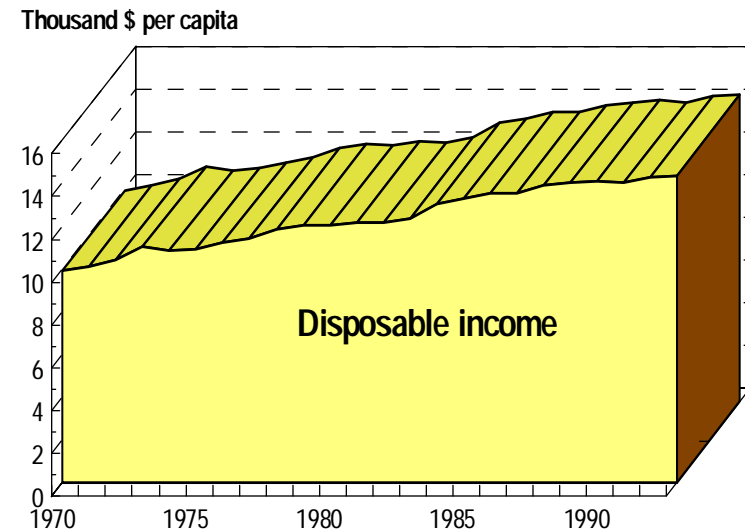
U.S. Food Expenditures by Families and Individuals, 1960-94

Food expenditures rise sharply, particularly for food away from home



Growth in Per Capita Disposable Income, 1970-95

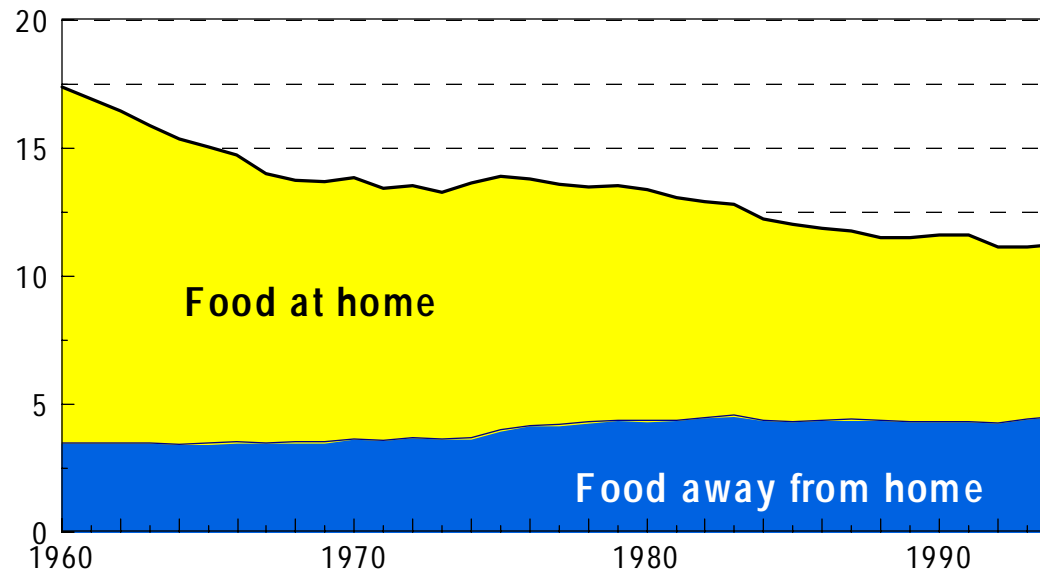
Consumer purchasing power continues to rise about 2 percent per year



Share of Income Spent on Food

Food-away-from-home share continues to grow

Percent of disposable income



compared with 13.8 percent in 1970, and 13.4 percent in 1980, and 11.3 percent in 1994.

- As income rises, the proportion spent for food declines, and there is more money available to spend on personal services and other discretionary items. Some of these additional services are purchased along with food and this helps to explain the increase in the percentage of income spent on food away from home.

- Compared with people in other Nations, Americans spend the smallest share of their household budget on food they eat at home. U.S. consumers' at-home food expenditures in 1992 as a portion of personal consumption spending totaled 8.7 percent compared with 10.5 percent for

Canada, 11.9 percent for the United Kingdom, 20.8 percent in Japan, and 38.4 percent in Russia. In less developed countries food expenditures can exceed one-half the budget.

Trends in Share of Food Spending

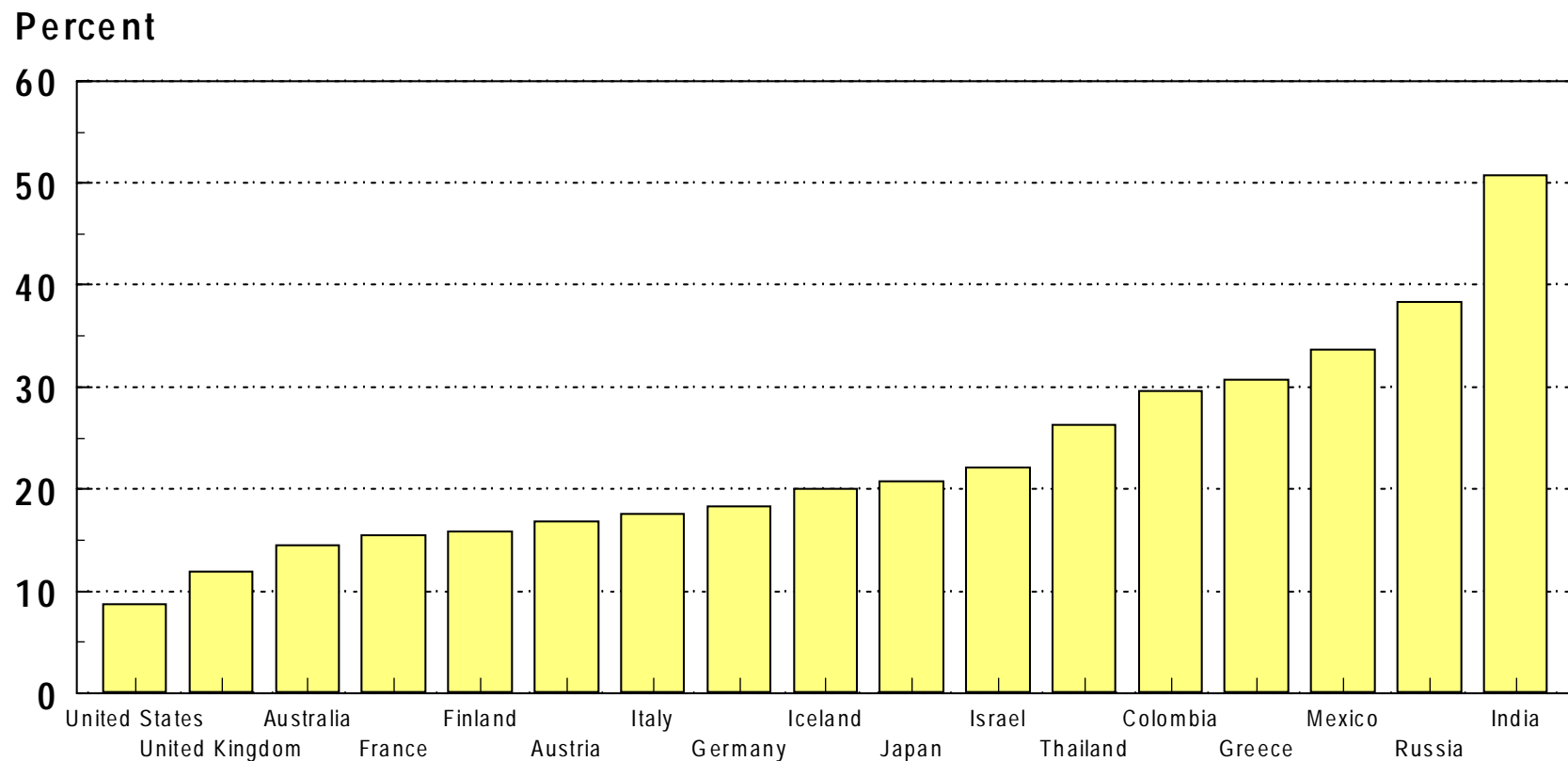
- Although food spending has increased considerably over the years, the increase has not matched the gain

in disposable income. As a result, the percentage of income spent for food has declined.

- Food expenditures by families and individuals were 17.4 percent of disposable personal income in 1960,

Percent of Total Personal Consumption Expenditures Spent on Food at Home

With abundant wealth and efficient agriculture, Americans spend smallest share of expenditures on food at home



Marketing Bill Rises As Proportion of Total Food Expenditures

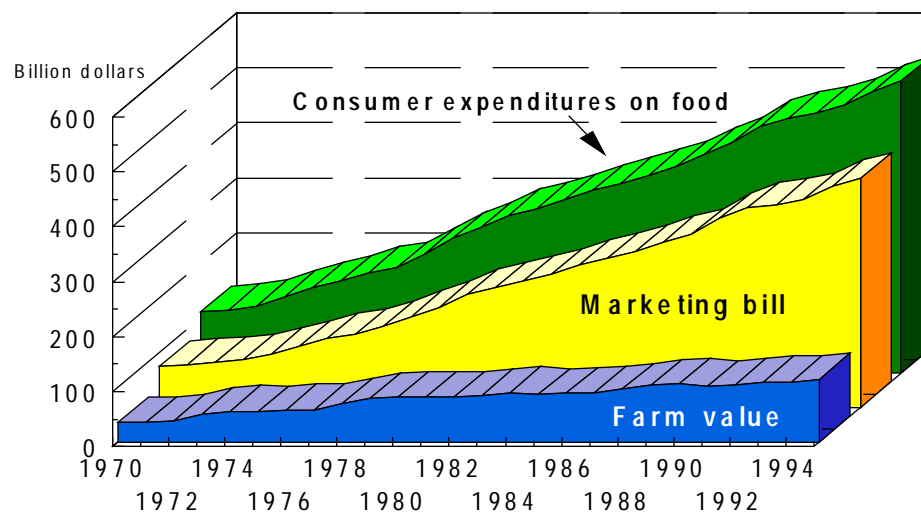
- Consumer expenditures for food increased fivefold between 1970

and 1994. However, the farm value share of each dollar spent on food has declined from 32 percent in 1970 to 21 percent in 1994. The marketing bill increased because of consumer demand for convenience, packaging, and dining out.

- Labor is the biggest factor in the marketing bill. In 1994, labor costs in the marketing bill accounted for 37 percent of the food dollar--76 percent more than the farm value.

Trends in Food Spending, Marketing Bill, and Farm Value, 1970-95

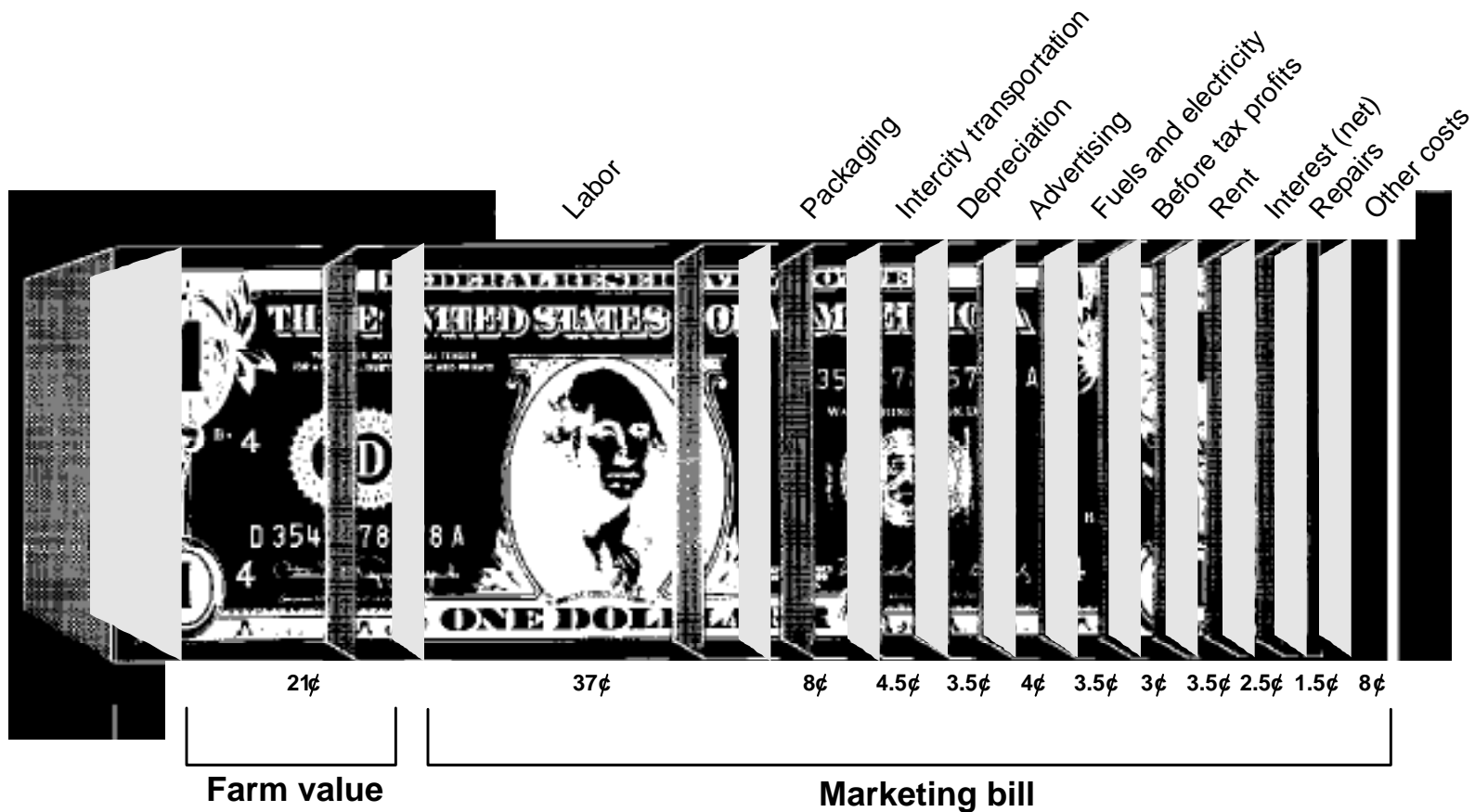
Over three-quarters of 1995 food expenditures went to pay marketing costs



For recent trends in food marketing costs...

Elitzak, Howard. "Food Marketing Costs Rose Less Than the Farm Value in 1995," *Food Review*, vol.19, issue 3 (Sept.-Dec. 1996), USDA, Economic Research Service.

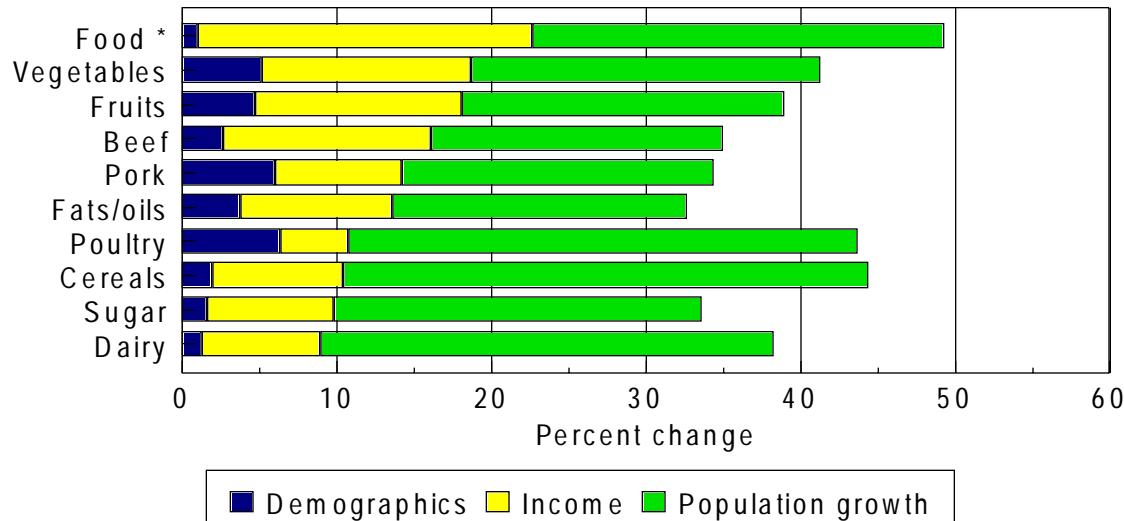
What a dollar spent on food paid for in 1994



Includes food eaten at home and away from home. Other costs include business taxes, property taxes and insurance, accounting and professional services, promotion, bad debts, and many miscellaneous items.

Major Factors Affecting Growth in U.S. Food Expenditures, 1980-2005

Income and population account for most of predicted growth



*Food includes food expenditures both at home and away.
Commodity categories include only expenditures for food at home.

Income and Population Growth Drive Future Food Spending

- While demographic characteristics such as age, sex, race, education, ethnicity, and region of residence explain much of the variation in

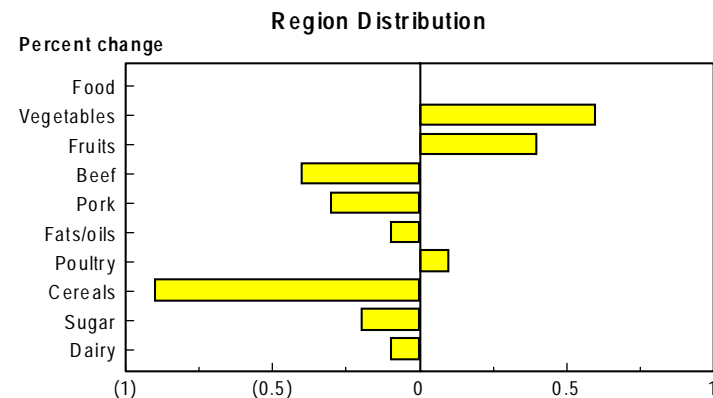
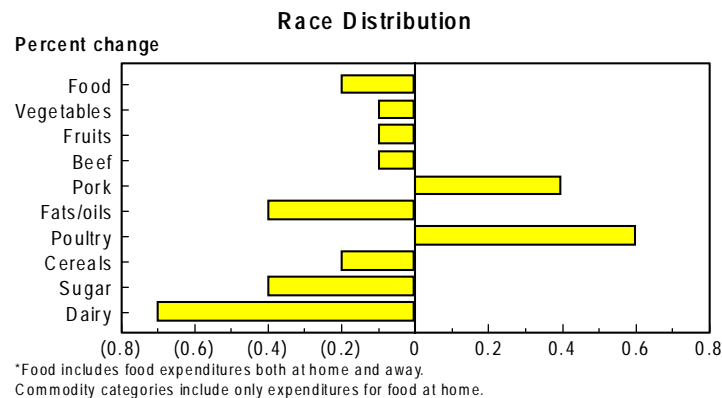
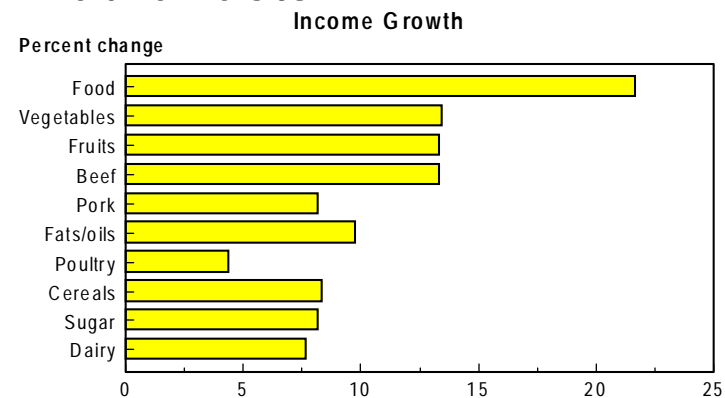
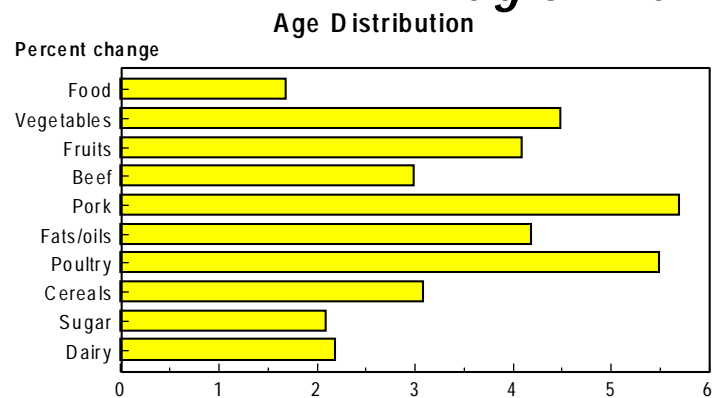
spending patterns observed among households, these factors will have minor influence on average consumption in the next decade. This is because these factors tend to change slowly over time and some trends tend to cancel out others.

For international comparisons of food spending...

Meade, Birgit and Stacey Rosen.
"Income and Diet Differences Greatly
Affect Food Spending Around the
Globe," *Food Review*, vol.19, issue 3
(Sept.-Dec. 1996), USDA, Economic
Research Service.

Projected Changes in Per Capita Food Expenditures, 1980-2005

Rising age and income boost expenditures while race and region have mixed effects



The Projected Aging of the Population...

...and the growth in household income are expected to have a positive impact on per capita expenditures for all major food groups. Conversely, projected changes in the racial and regional mix of the population are expected to have a small, but mixed,

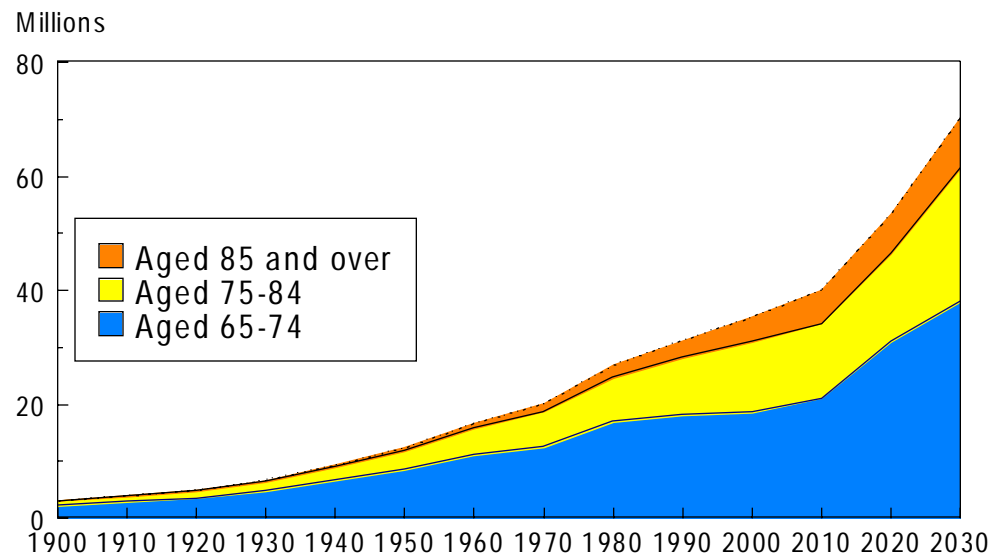
effect on per capita expenditures.

- This century the number of persons in the United States under age 65 has tripled. At the same time, the number aged 65 or over has jumped by a factor of 11. Consequently, the elderly, who comprised only 1 in every 25 Americans (3.1 million) in 1900, made up 1 in 8

(33.2 million) in 1994. Declining fertility and mortality rates also have led to a sharp rise in the median age of the Nation's population--from 20 years old in 1860 to 34 in 1994. Life expectancy increased from 47 years in 1900 to 68 years in 1950, and steadily rose to 76 years in 1991.

The Elderly Population

The elderly are growing both in numbers and age



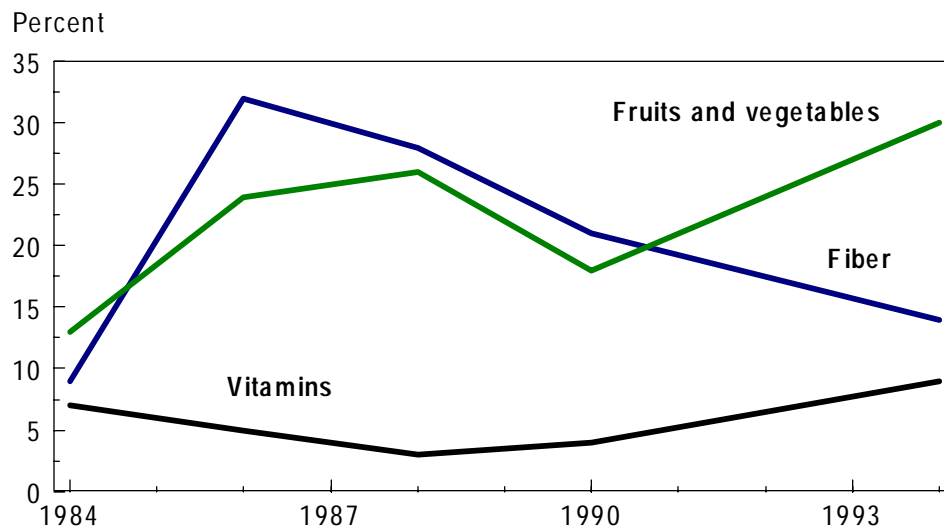
ERS research on food safety economics...

Buzby, Jean C., Tanya Roberts, C.-T. Jordan Lin, and James M. MacDonald. *Bacterial Foodborne Disease: Medical Costs and Productivity Losses*, Agricultural Economic Report 741, USDA, Economic Research Service, August 1996.

Kuchler, Fred, Katherine Ralston, Laurian Unnevehr, and Ram Chandran. *Pesticide Residues: Reducing Dietary Risks*, Agricultural Economic Report 728, USDA, Economic Research Service, January 1996.

Trends in Awareness of Diet Factors Related to Cancer, 1982-94

Awareness of specific dietary factors related to cancer is low



Source: U.S. Dept of Health and Human Services

The Scientific Linkage Between Diet and Health is Growing Stronger Every Day

- According to the *Surgeon General's Report on Nutrition and Health* (1988), "For the two out of three adult Americans who do not

smoke and do not drink excessively, one personal choice seems to influence long-term health prospects more than any other: what we eat."

- Some 300,000 deaths per year—14 percent of the total—have been attributed to poor diets and/or inadequate physical activity (McGinnis, J. Michael, and William H.

Foege. "Actual Causes of Death in the United States," *Journal of the American Medical Association*, Nov. 10, 1993).

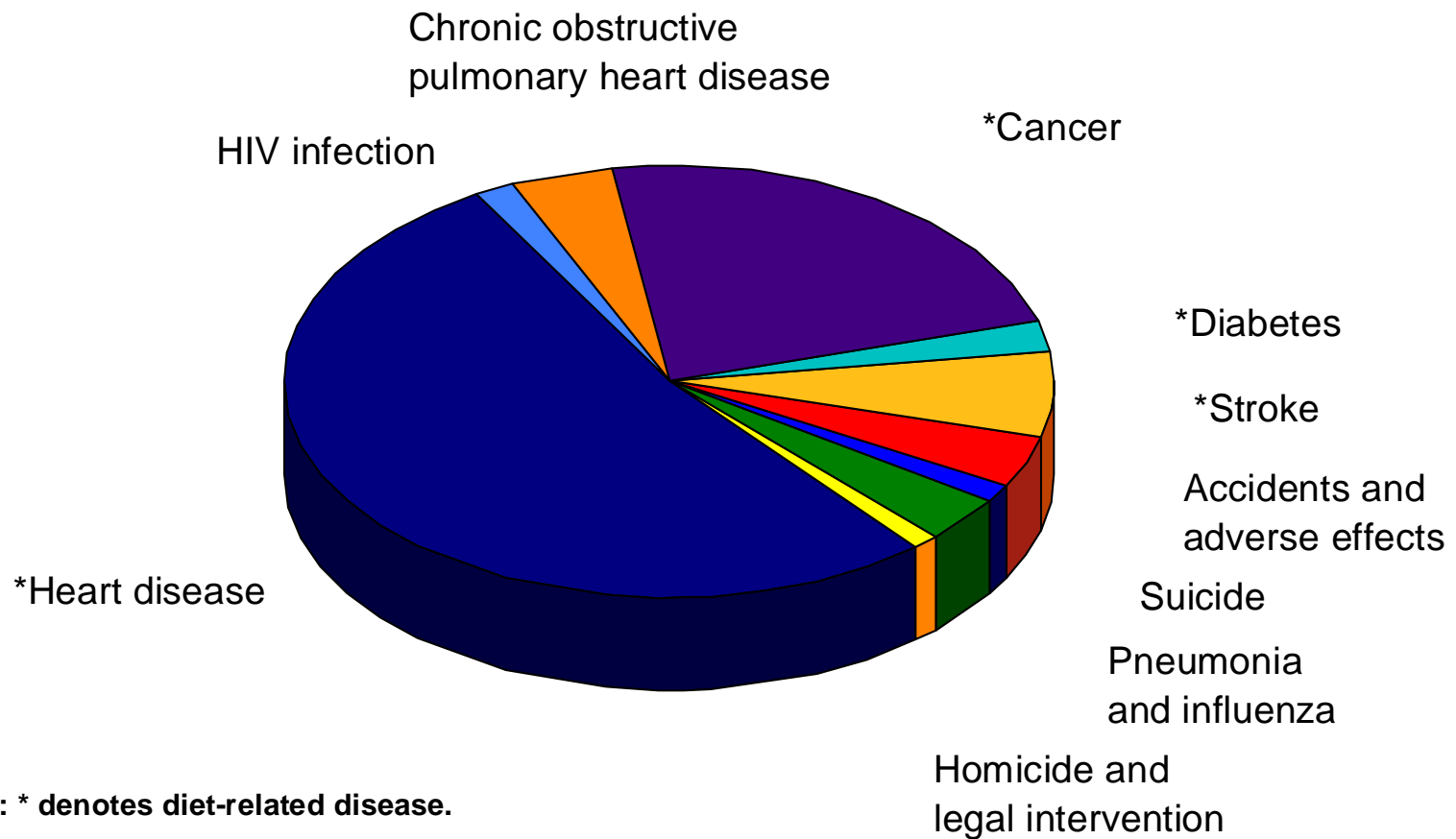
- Recent USDA surveys of the diet and health knowledge and attitudes of homemakers with children reveal that the vast majority of them are aware of health and nutrition relationships for specific nutrients. Awareness of the link between nutrients and health is particularly high for over-consumed nutrients such as food energy, fat, saturated fat, cholesterol, and sodium. Awareness tends to be lower for under consumed nutrients like iron, fiber, and calcium.

- However, parents' awareness of these diet-health relationships is apparently insufficient for changing the dietary practices of their children. The dietary intake of most nutrients is about the same for the children of aware and unaware parents. A key issue for nutrition educators is to identify barriers to good dietary practices and develop successful techniques and methods for improving the dietary practices of children.

- USDA's recently developed Healthy Eating Index (HEI) reveals that the diets of three out of every four

Top 10 Causes of Death, 1993

Four of the top 10 causes are diet-related



individuals need improvement. Only 11 percent of diets are found to be good and 15 percent are found to be poor. The findings are based on a representative sample of 7,463 individuals in the 1989 and 1990 USDA Continuing Survey of Food Intake by Individuals conducted by the Agricultural Research Service.

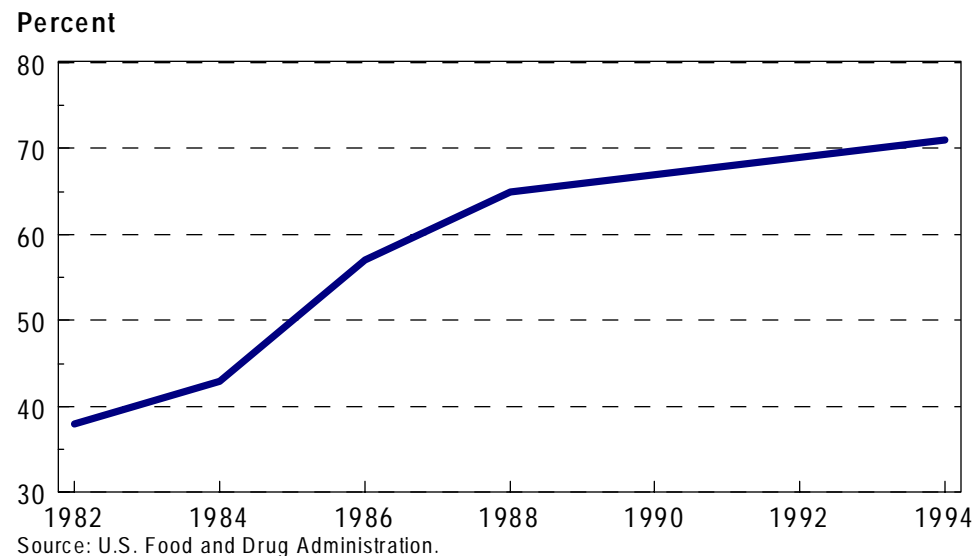
- Less than one-third of the population consumed recommended servings of milk and meat groups and fewer than one-in-five consumed recommended servings of grains, vegetables, and fruits. Less than 20 percent achieved the recommendations for fat and saturated fat, only 35 percent the recommendation for sodium, and less than one-third achieved the recommendation for variety in dietary patterns. The HEI improves with education and income of the household. The index was higher for children, older people, and women. People with higher HEI score correlated with better nutrient intake.

Awareness of Dietary Factors Related to Cancer Remains Low

- Only one in three Americans is aware of the relationship between fruit and vegetable consumption and cancer—even though the National

Trends in Awareness of the Dietary Fat-Heart Disease Link

There was significant growth in the 1980s but now it is leveling off



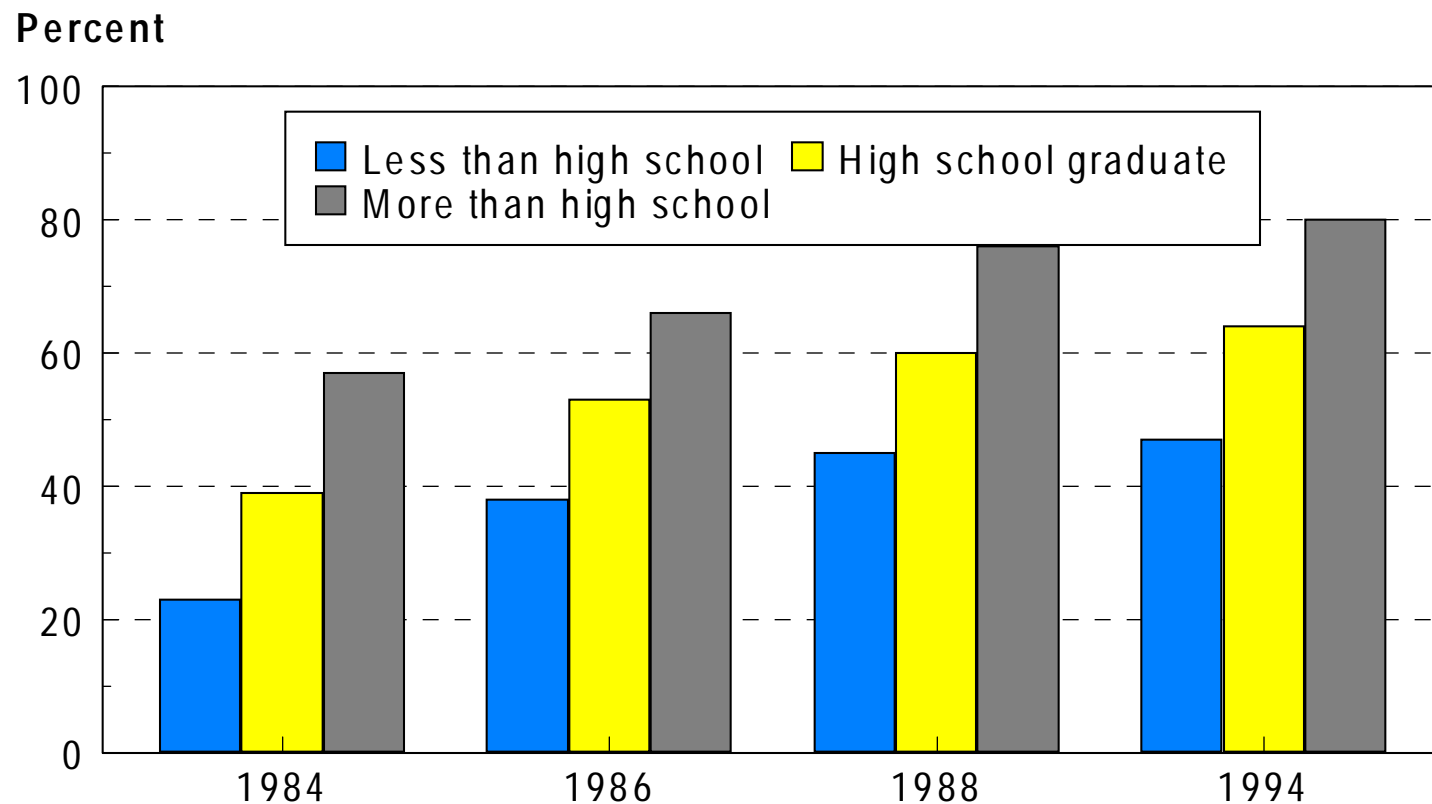
Cancer Institute's Five-A-Day program has been emphasizing the importance of eating at least five servings a day of fruits and vegetables to reduce the risk of cancer.

- Awareness of the relationship between diet and disease is rising for vitamins and fruit and vegetable consumption. Awareness of the link

between fiber and cancer rose after 1984 when Kellogg's began highlighting the linkage in its advertising for All-Bran cereal. After all the "hoopla" in the cereal and bakery industry, the awareness declined.

Awareness of the Dietary Fat-Heart Disease Link By Level of Education

Awareness increases significantly with education



Awareness of the Relationship Between Fat Consumption and Heart Disease Has Increased Significantly

- Since 1982, awareness of the relationship of dietary fat to heart disease has increased from 38 percent to 71 percent. However, the growth in awareness has leveled-off in the 1990s. Those with the most education tend to be more aware. There has been little change in awareness patterns since 1988, and the gap in awareness levels among those with differing levels of education has not decreased. As might be expected, those with the least amount of formal education are most in need of nutrition education.

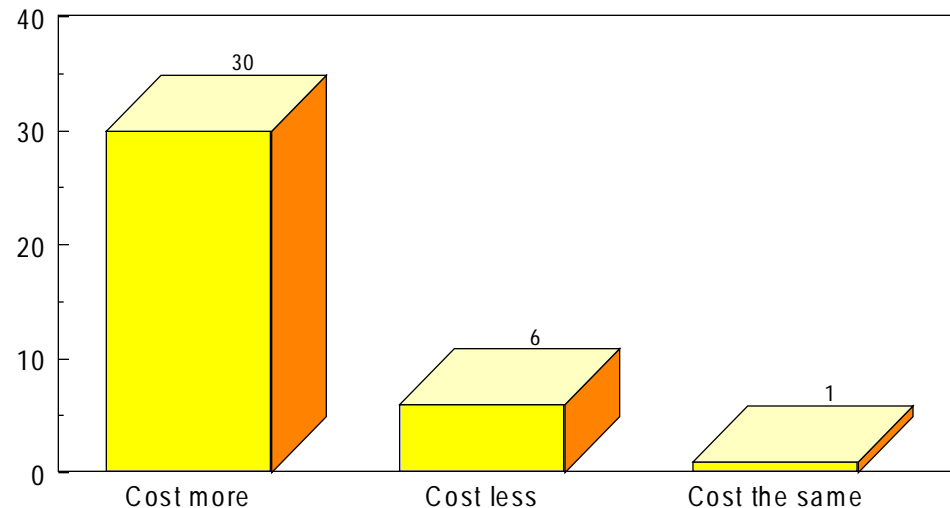
Suggested reading...

Variyam, Jayachandran N., James Blaylock, and David Smallwood. *Diet-Health Information and Nutrition: The Intake of Dietary Fats and Cholesterol*, Technical Bulletin 1855, USDA, Economic Research Service, February 1997.

Cost Comparisons: Nutritionally Improved and Regular Products, 1993

Nutritionally improved products usually cost more

Number of categories



Sales of Nutritionally Improved Foods Increasing But These Foods Cost More

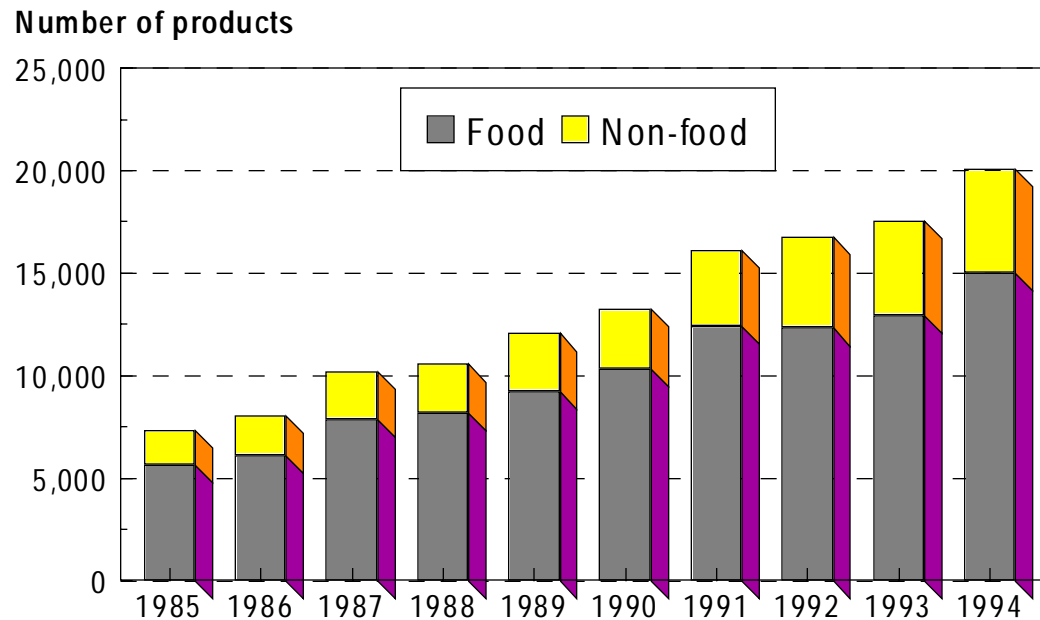
- Nutritionally improved foods accounted for 78 percent of increased volume sales between 1989-93. The market share of nutritionally improved versions increased 3 percentage

points between 1989-93.

- Nutritionally improved versions are defined as such if they offered at least one nutritional improvement over the traditional counterpart. Some of the nutritional improvements included nutrition-related claims such as "low fat," "light," "packed in water," while others were classified on ingredients

New Grocery Product Introductions

Over 15,000 new food products were introduced in 1994



Competition Among Food Processors for the Consumer's Dollar is Fierce

- Food processors continue to develop and promote new products to please the consumer. In 1994, more than 15,000 new food products were introduced, about three times as many as a decade earlier. According to industry estimates, food processors spend about \$2 on retail promotion (trade shows, promotions, discounts and allowances, and other incentives) for every \$1 in direct advertising.

- Most new product introductions are further differentiation of already existing

products. Highly processed foods such as candy, baked products, beverages, and condiments account for most of these new product introductions.

such as ice milk, sherbet, and frozen yogurt versus ice cream, poultry-based hot dogs versus beef and pork-based products, and diet versus nondiet carbonated beverages.

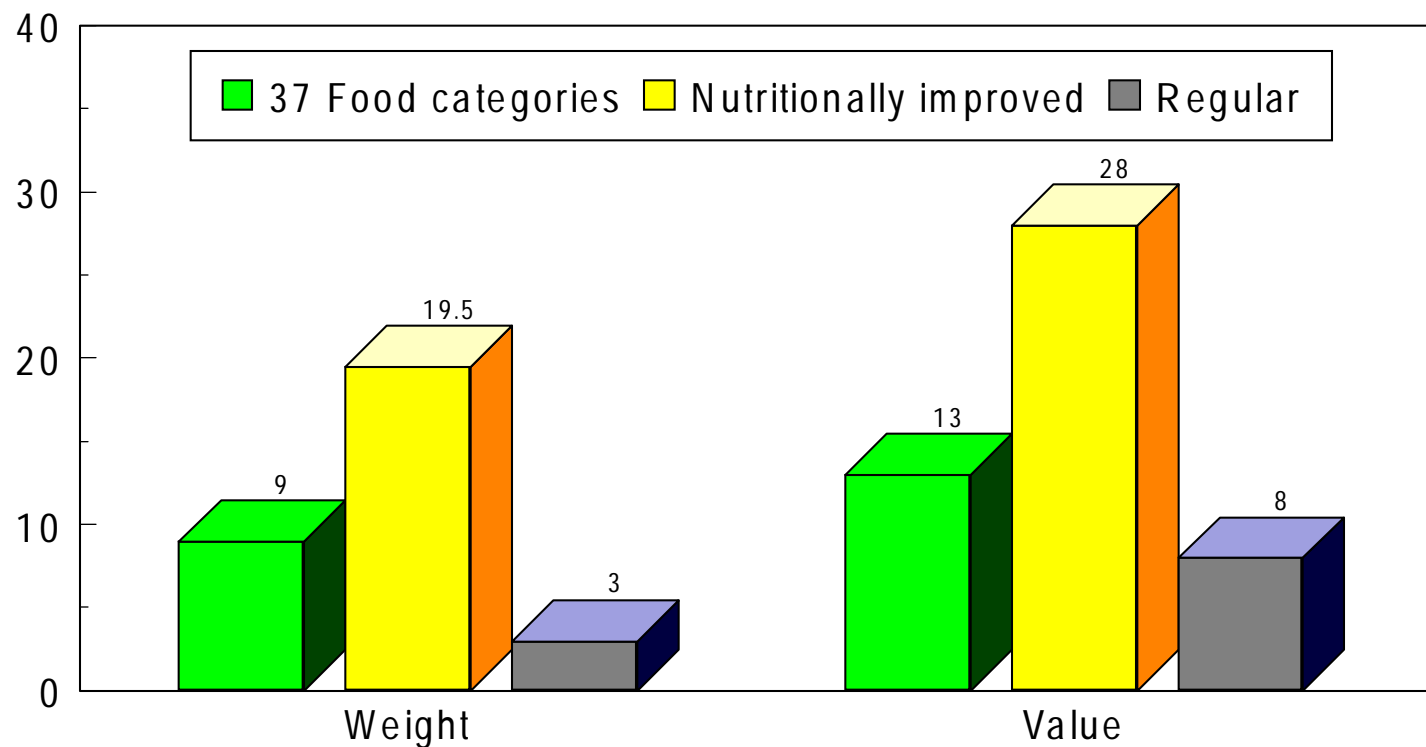
- Nutritionally enhanced foods

tend to cost more. Price differences ranged from \$0.03 to \$1.86 per pound (2 to 94 percent higher than regular versions) in 1993. For over half of these categories the price difference was larger in 1993 than in 1989.

Growth in Nutritionally Improved and Regular Products, 1989-93

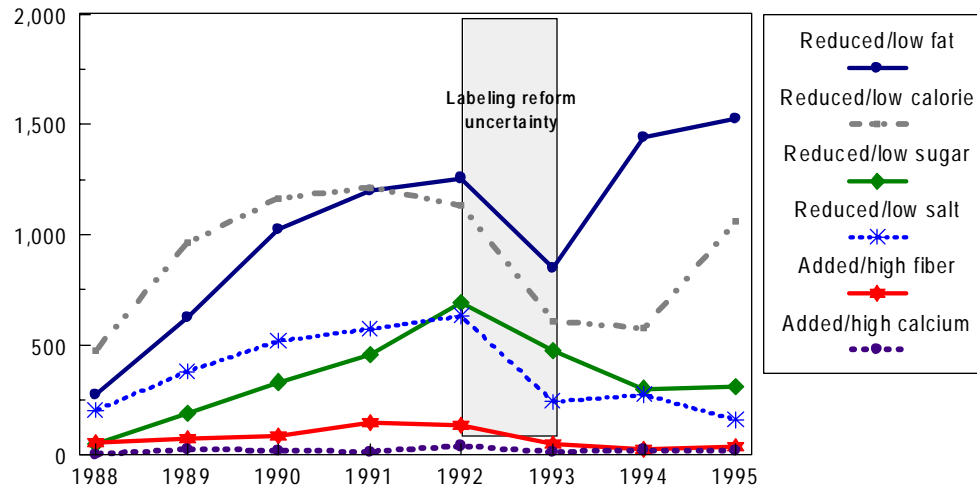
More nutritionally improved versions have grown in both weight and value

Number of categories



Number of New Products Bearing Nutrient Content Claims

Nutrient content claims are on the rise



Source: New Product News.

Note: New nutrient claims are not additive, as new products may carry more than one claim.

were nothing more than advertising hype. But with the publication of new food labeling regulations in January 1993, the Federal government addressed the problem of misleading nutrition claims and helped reestablish the credibility of the food label. The regulations spell out which nutrient content claims are allowed and under what circumstances they can be made. There are 11 core terms: "free," "low," "lean," "extra-lean," "high," "good source," "reduced," "less," "light," "fewer," and "more." The advantage for both industry and consumers is that now everyone plays by the same rules.

Appealing to Rising Consumer Awareness of the Linkage Between Diet and Health

- The food industry has developed thousands of new food products each year with nutrient content claims. The number of new products making nutrient claims is on the rise. Claims tend to focus on *reduced* or

low fat, cholesterol, calories, or sugar. Fewer new products claim that particular nutrients are high or have been added. Fiber and calcium are the most frequently cited nutrients on new products to have high or added levels.

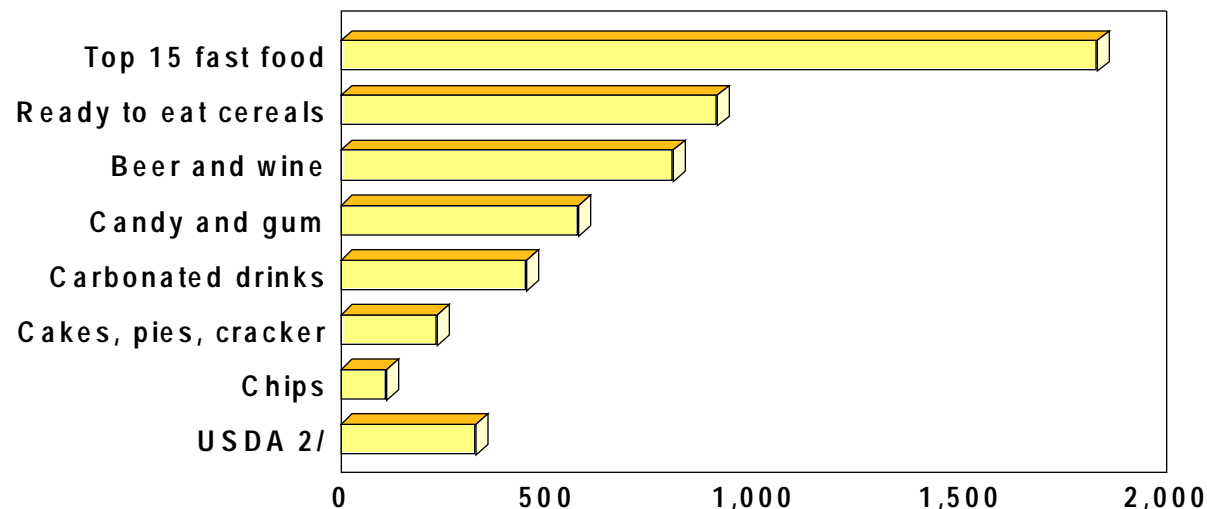
- Before recent food labeling reform, many nutrient content claims

Suggested reading...

Frazao, Elizabeth and Jane E. Allshouse. *Size and Growth of the Nutritionally Improved Foods Market*, Agriculture Information Bulletin 723, USDA, Economic Research Service, April 1996.

USDA Nutrition Education and Food Industry Advertising ^{1/}

Nutrition messages must compete with industry advertising



Source: Leading National Advertising and Economic Research Service.
^{1/} 1995 data. Industry advertising expenditures for dissemination (media) only
 Does not include preparation costs.
^{2/} Includes WIC funds targeted for nutrition education.

Nutrition Education Messages Must Compete...

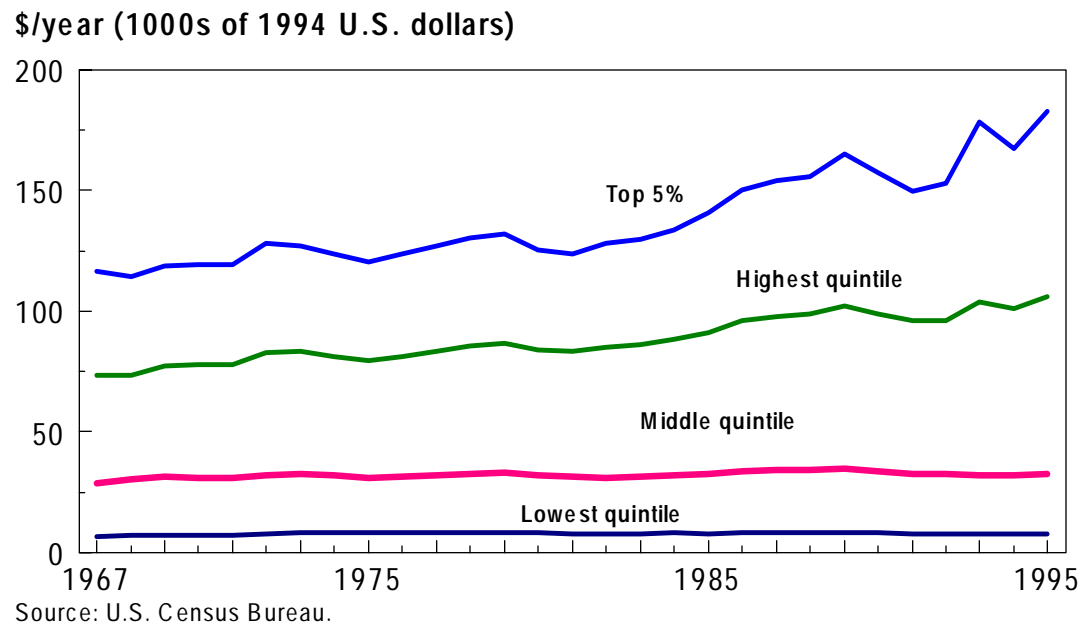
- ...with many different advertising messages from the food industry as well as the nutrition “fad of the month” in magazines, newspapers and book stores. In 1995, USDA

spent about \$327 million on nutrition education. This includes \$151 million for WIC formula funds, \$61 million for The Expanded Food and Nutrition Education Program (EFNEP), and \$24 million for WIC breast-feeding promotion. In contrast, the food industry spent over \$10 billion in direct con-

sumer advertising. All combined, USDA spent less on nutrition education support and delivery than the food industry spent on advertising media for carbonated soft drinks and less than one-half the amount that the food industry spent for promoting ready-to-eat cereals.

Trends in Average Family Income by Selected Income Groups

The poor remain poor while the rich get richer



have shown marked growth. The largest growth in average income has been in the top 5 percent of the population. As a consequence, there is growing inequality in income among families.

- The growth in income inequality is associated with growth in the inequality of wages. Wage growth is greatest for the more highly skilled, trained, and educated workers. In contrast those at the bottom of the wage pool have experienced losses in real wages. At the same time, changes in long-run living arrangements have tended to exacerbate the wage effects on income. For example, divorces and

Growing Income Inequality Expands Need for Food Assistance

- While average purchasing power of families continues to in-

crease, not all families have benefited from this growth. According to a recent study by the Census Bureau, the average income of families in the lowest quintile (poorest fifth) of the population has shown no growth while those in the highest quintile

separations, births out of wedlock, and the increasing age at first marriage have led to a shift away from married couple households and toward single parent and nonfamily households which typically have lower incomes.

Food Stamps are the Largest USDA Program

- In 1995, USDA provided \$37.8 billion or over 60 percent of its total budget for domestic food assistance. The Food Stamp Program accounts for about 2 out of every 3 USDA food assistance dollars.

- Food assistance began in the 1930s as commodity donation and farm support programs. Rapid growth in food assistance outlays began in the late 1960s with the initiation of the Food Stamp Program and an increased focus of food programs on feeding needy people. There was also growth in food assistance targeted for school age children and other groups at nutritional risk such as pregnant women and their young children. Food Stamps account for the majority of the growth in food assistance program budget. Today, commodity donation programs account for only a small share of budget outlays and are highly dependent on variation in farm programs and conditions.

- Food assistance programs can be broadly categorized into four groups:

- Food Stamps (includes Nutrition Assistance for Puerto Rico and the Northern Marianas);

- Child Nutrition (includes the National School Lunch Program, School Breakfast, the Special Milk Program, Child and Adult Care Food Program, and the Summer Food Service Program);

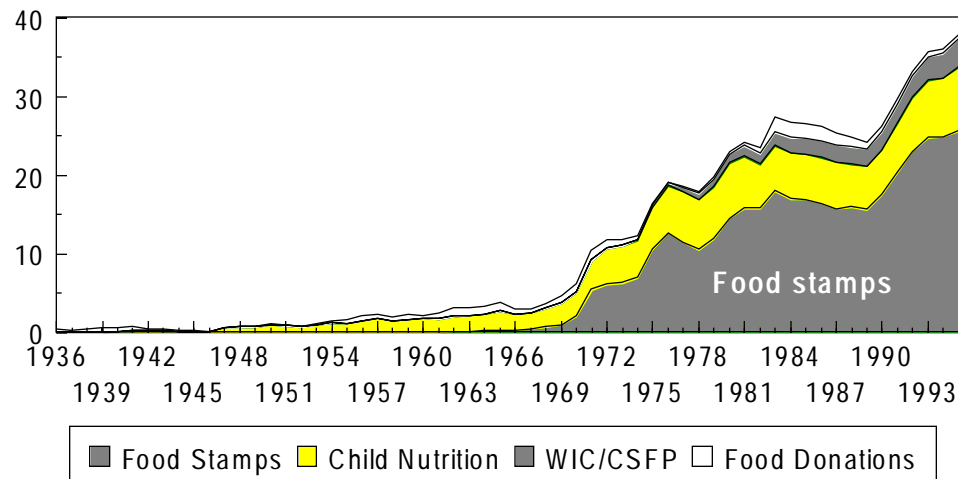
- WIC/CSFP (includes the Special Supplemental Program for Women, Infants, and Children and the Commodity Supplemental Food Program);

- Food Donations (includes the Nutrition Program for the Elderly, Food Distribution to Charitable Institutions, Soup Kitchens, and Food Banks, Disaster Feeding, and the Emergency

Food Assistance Program Trends

Food Stamp Program grows substantially

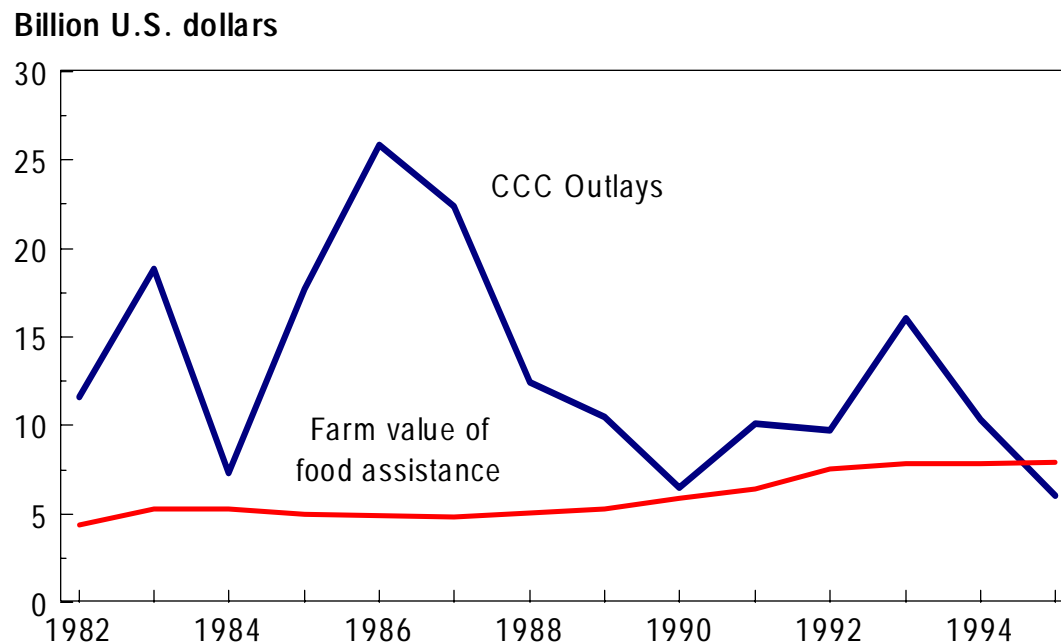
Billion U.S. dollars



Note: 1994 dollars.

CCC Outlays and the Farm Value of Food Assistance

Farm value of food assistance overtakes CCC outlays in 1995



ERS' Food Review magazine follows developments in U.S. food assistance programs...

Price, Charlene and Betsey Kuhn. "Public and Private Efforts for the National School Lunch Program," *Food Review* vol.19, issue 2 (May-Aug.1996), USDA, Economic Research Service.

Food Assistance Program [TEFAP]).

- The farm value of domestic food assistance programs has grown steadily. However, Commodity Credit Corporation (CCC) outlays for com-

modity programs, which support farm prices and incomes, have varied widely and trended downward overall. In 1995, the farm value of food assistance programs exceeded CCC outlays for the first time.